

Application No. 10/507,339
Amtd. dated January 20, 2006
Reply to Office Action of September 23, 2005

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REMARKS/ARGUMENTS

Petition is hereby made under the provisions of 37 C.F.R. 1.136 (a) for an extension of one month of the period for response to the Office Action. Authorization to charge the prescribed fee to our deposit account is enclosed.

The courtesy of the Examiner in granting an Interview on this application to the applicant's representative, Mr. Michael Stewart, is much appreciated. It is believed that the Interview was material in advancing the prosecution of this application. The Interview Summary fairly sets forth the substance of the discussion at the Interview. The comments and submissions made herein complement and supplement those made to the Examiner at the Interview.

A clerical error has been corrected in claim 1 and in the corresponding statement of invention in paragraph 0015, where the range about 5 to about 90 wt% of 7S protein should be about 5 to about 40 wt % of 7S protein. The basis for correction of this error can be found in paragraph 0012 where the range is correctly cited as about 5 to about 40 wt%.

That the latter range is correct is clear from the U.S. Patent application which claims priority from the two U.S. provisional patent applications listed in paragraph 0012, namely U.S. Patent Application No. 10/413,371 filed April 15, 2003, published February 29, 2004 under Publication No 20040034200. A copy of the published document is enclosed for the Examiner's convenience of reference thereto.

The Examiner rejected claims 1 to 3 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In this regard, the Examiner indicated that it was not clear what degree of denaturation is permissible in view of the term "substantially undenatured canola protein isolate".

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In considering issues raised with respect to 35 USC 112, second paragraph, the Examiner should keep in mind established practice in the chemical, including food sciences, arts with respect to terminology.

The term "substantially" is often used in patent terminology to denote that a material may possess a certain property or nearly so. The term "substantially" undenatured means, as would be understood by one skilled in the art, that the canola protein isolate is undenatured or may be denatured to a very minor extent.

Having regard to the above discussion, it is submitted that claims 1 to 3 are not indefinite and hence the rejection thereof under 35 USC 112, second paragraph, should be withdrawn.

The Examiner rejected claims 1 to 5 (believed to be a clerical error for claims 1 to 3) under 35 USC 102(a) as being anticipated by either one of "New Technology Isolates Canola Protein" article ("Food Engineering") or Asia Pacific Food Industry article ("Asia Pacific") or rejected under 35 USC 102 (b) as being anticipated by GB 2077739. It is noted that the Examiner did not list the cited GB 2077339 on the Notice of References cited, although it was cited and listed in Application No. 10/507,339.

As noted above, claim 1 has been amended to correct a clerical error contained therein. Claim 1 defines a food composition requiring a foodstuff and at least one component providing functionality in the food composition. The at least one component is at least partially replaced by a substantially undenatured canola protein isolate having a protein content of at least about 90 wt% (N x 6.25) with the isolate exhibiting a protein profile which is

about 60 to about 95 wt% of 2S protein

about 5 to about 40 wt% of 7S protein

0 to about 5 wt% of 12S protein

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As discussed in the application in paragraphs 0007 to 0012, a canola protein isolate of this protein profile, containing a predominant proportion of 2S protein, is obtained from supernatant from the precipitation of protein micellar mass (PMM) in the process described therein. The PMM has a protein profile quite different from that of the supernatant-derived isolate used herein and consists predominantly of 7S protein.

Both the Food Engineering and Asia Pacific references describe the provision of a canola protein isolate which has a protein content of at least 90 wt %. The canola protein isolate is formed by mixing canola oil seed meal with salt water to extract protein, separating the aqueous protein solution from the residual meal, concentrating the aqueous protein solution, diluting the concentrated protein solution in chilled water, and drying the precipitated protein micellar mass. As can be seen, for example, from the diagram on the first page of the Food Engineering article, the supernatant from the precipitation of the protein micellar mass is simply discarded and is not processed at all. There is no suggestion in either reference to process the supernatant.

As described on page 31 of the Asian Pacific article:

"Once a concentrated protein solution has been prepared by physical methods, the micelles are induced to form through a reduction of the ionic strength of their surrounding environment. Micelle formation is a rapid process and the micelles settle to the bottom of a dilution vessel. The collected wet micelles are viscous and sticky, somewhat like wheat dough in texture and may be used in this liquid state for suitable applications or, more preferably for long-term stability, spray-dried to form a free-flowing, light, tan-coloured protein isolate powder ..." (emphasis added).

It will be seen that the passage, and indeed the whole of either document, is silent as to any processing of the supernatant from the separation of the wet micelles.

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As is described in the disclosure on paragraph 0011, the settled PMM and protein derived from the supernatant by the procedures described in paragraphs 0008 and 0009 have different relative proportions of the 12S, 7S and 2S proteins of canola.

There is no suggestion, therefore, in either the Food Engineering or Asia Pacific article to prepare a canola protein isolate having the protein profile recited in claim 1.

In the Office Action, the Examiner states:

"It is expected that the canola protein isolate of Food Engineering contains the same 7S, 12S and 2S proteins since same are present in canola protein isolate in general and the same percentages claimed due to the similarity in the functional characteristics of both Food Engineering and the instant invention". (emphasis added)

As set forth above, the Food Engineering and Asia Pacific references teach the preparation of a canola protein isolate which is predominantly the 7S protein whereas the present invention employs a supernatant-derived canola protein isolate which is predominantly the 2S protein and hence they are two different isolates with different protein profiles of 7S, 12S and 2S canola proteins.

Accordingly, it is submitted that all claims define patentable subject matter over the prior art of Food Engineering and Asia Pacific and hence no claim is open to rejection under 35 USC 102 (a) as being anticipated by Food Engineering or Asia Pacific.

As the Examiner states, GB 2077739 describes a canola protein isolate which has a protein content of at least 95 wt% which is spray dried and is used, for example, as an egg white substitute in foods containing egg. The Examiner states:

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"It is expected that the canola protein isolate of GB 2077739 contains the same 7S, 12S and 2S proteins since same are present in canola protein isolate in general and the same percentages claimed due to the similarity in the functional characteristics of both GB 2077739 and the instant invention."

The reference describes a procedure of producing a protein isolate by extracting a protein source material with an aqueous food grade salt solution under certain conditions, increasing the protein concentration of the protein solution while maintaining the ionic strength substantially constant, diluting the concentrated protein solution to cause the formation of protein micelles, and settling the protein micelles to form a protein micellar mass (PMM) (see Abstract). The PMM may be separated from supernatant and dried. The procedure described is similar to that described in the Food Engineering and Asia Pacific articles. In common with those articles, there is no hint or suggestion of processing the supernatant to recover additional quantities of canola protein.

Protein source materials described in GB 2,077,739 include "oil seeds, such as rapeseed" (page 1, lines 45 to 46), although there are no specific working Examples in GB 2,077,739 describing the isolation of a canola (rapeseed) protein isolate, the only working Examples being of the legumes, field peas and fababeans.

As discussed above, the present invention utilizes a 2S predominated canola protein isolate in a food composition derived from the supernatant while the reference, if applied to canola oil seeds, would prepare a 7S dominated canola protein isolate and hence the percentages of 7S, 12S and 2S proteins in the respective isolates is quite different.

Accordingly, it is submitted that all claims are not anticipated by GB 2,077,739 and hence the rejection thereof under 35 USC 102(b) as anticipated by the prior art should be withdrawn.

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The Examiner rejected claims 1 to 3 under 35 USC 103(a) as being unpatentable over Cameron et al or Murray et al (U.S. 6,005,076).

It is agreed with the Examiner that Cameron et al and Murray et al describe the provision of a canola protein isolate which has a protein content of at least 90 wt% which can be in a dry form.

As the Examiner indicates, both Cameron et al and Murray et al are silent as to the use of the respective canola protein isolates as a replacement ingredient in a food composition. However, the Examiner notes that it is well known to use such canola protein isolates as replacement for egg white in food, citing either Food Engineering or Asia Pacific.

However, as with Food Engineering and Asia Pacific, neither Cameron et al nor Murray et al describe the processing of supernatant to obtain a canola protein isolate of radically different canola protein profile from the PMM-derived canola protein isolate. The references, therefore, do not describe or suggest the canola protein isolate utilized in the present invention.

Accordingly, it is submitted that all claims are patentable over the applied prior art and hence the rejection thereof under 35 USC 103(a) as being unpatentable over Cameron et al or Murray et al, should be withdrawn.

The Examiner provisionally rejected claims 1 to 3 under 35 USC 101 as claiming the same invention as that of claims 1 to 3 of copending Application No. 10/137,306, claims 1 to 3 of copending Application No. 10/384,699, claims 1 to 5 of copending Application No. 10/493,023, claims 35 to 38 of copending Application No. 11/086,458 and claims 1 to 9 of copending Application No. 10/274,886.

It is noted that the rejection is a provisional one since the conflicting claims have not in fact been patented. The Examiner may wish to note that Application No. 10/274,886 has been allowed.

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With respect to the various cases, it is believed that there are differences in scope among the claims of the various cases which militate against a double patenting rejection under 35 USC 101, particularly with respect to Applications Nos. 10/137,306, 10/493,023, 11/086,458 and 10/274,886.

These cases respectively claim:

10/137,306 claims a food composition in which a canola protein isolate having a protein content of at least about 100 wt% is used to at least partially replace functionality imparting components,

10/493,023 and 10/274,886 both claim a food composition in which a blend of supernatant-derived canola protein isolate, having a defined protein profile, and a PMM-derived protein isolate, also of defined chemical properties, is used to at least partially replace functionality imparting products,

11/086,458 claims a canola protein isolate which is separated from supernatant. No food composition is claimed.

This rejection requires no action at the present time since the rejection is a provisional one.

New claims 4 to 11 have been added to better protect applicant's invention. Basis for claims 4, 5 and 9 can be found in paragraph 0010. Basis for claims 6 and 7 can be found in paragraph 0020. Basis for claim 8 can be found in paragraphs 0008 and 0010 while basis for claims 10 and 11 can be found in paragraph 0018 and for claim 12 can be found in paragraph 0033.

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It is believed that this application is now in condition for allowance and early and favourable consideration and allowance are respectfully solicited.

Respectfully submitted,



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